

REMARKS

By this Amendment, Applicant amends the Specification, to cure informalities, cancels claims 3, 4, 12, 13, 20 and 26, without prejudice or disclaimer of the subject matter therein, and amends claims 1, 6, 10, 11, 14-17, 19, 22, 24, 25 and 27-29. Claims 1, 2, 5-11, 14-19, 21-25 and 27-29 remain pending in this application.

In the Office Action of July 19, 2004,¹ the Specification was objected to for minor informalities; claims 1-5, 6, 9-14, 15, 18-22 and 24-27 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,745,526 to *Kumm et al.* ("*Kumm*") in view of *Transmitter Architectures*, 1998 IEE, ("*Norris*") in further view of U.S. Patent No. 5,420,536 to *Faulkner et al.* ("*Faulkner*");² and claims 7, 8, 16, 17, 23, 28 and 29 were rejected under 35 U.S.C. § 103(a) as unpatentable over *Kumm* in view of *Norris* and *Faulkner* and further in view of PCT International Application Publication No. WO 00/31881 ("*Wilson*"). Applicant addresses the objection and rejections below.

Objection to the Specification

The Examiner objected to the Specification, alleging (1) that the phrase "referring to FIG. 2 and FIG. 4" on page 19, line 13, should be replaced with "referring to FIG. 3 and FIG. 4" and (2) that the phrase "is applied as frequency a converter 7" on page 23, line 9, should read "is applied to a frequency converter 7." Applicant amends the Specification to address the noted informalities. Applicant deems the objection to Specification overcome and requests its timely withdrawal.

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether or not any such statement is identified herein, Applicant declines to automatically subscribe to any statement or characterization in the Office Action.

² The Examiner did not explicitly provide a statutory basis for applying *Kumm*, *Norris* and *Faulkner* to claims 18 and 24. Nonetheless, Applicant assumes the Examiner is rejecting these claims under 35 U.S.C. § 103(a) along with claims 1-5, 6, 9-14, 15, 19-22 and 25-27, and Applicant responds to the Office Action accordingly.

Rejection of claims 1-5, 6, 9-14, 15, 19-22 and 25-27 under 35 U.S.C. § 103(a)

The rejection of claims 3, 4, 12, 13, 20 and 26 is rendered moot by the cancellation of those claims. Further, Applicant traverses the rejection of claims 1, 2, 5, 6, 9-11, 14, 15, 18, 19, 21, 22, 24, 25 and 27 under 35 U.S.C. § 103(a) because a case for *prima facie* obviousness has not been established with respect to these claims as currently presented. To establish *prima facie* obviousness under § 103(a), three requirements must be met. First, the applied references, taken alone or in combination, must teach or suggest each and every element recited in the claims. See M.P.E.P. § 2143.03 (8th ed. 2001). Second, there must be some suggestion or motivation, either in the reference(s) or in the knowledge generally available to one of ordinary skill in the art, to combine or modify the reference(s) in a manner resulting in the claimed invention. Third, a reasonable expectation of success must exist. Moreover, each of these requirements must "be found in the prior art, and not be based on applicant's disclosure." M.P.E.P. § 2143 (8th ed. 2001).

Independent claim 1 recites a combination including:

means for delaying the amplitude signal output from the extracting means for a time . . .

wherein the delaying means comprises . . . means for setting the time; and a delay circuit for delaying the amplitude signal output from the extracting means in accordance with the time set by the setting means,

the setting means including a circuit for setting the time, based on at least one of a modulation type, a modulation index, a frequency, a roll off rate of the modulating signal, an ambient temperature, a supply voltage to the modulation circuit, and a gain.

The applied references, taken alone or in combination, fail to teach or suggest the above-noted features. *Kumm* relates to radio transmitters (col. 1, lines 8-10). *Kumm* does not teach or suggest at least the above-noted features of claim 1. As affirmed by the Examiner, *Kumm* does not

disclose, *inter alia*, “means for delaying the amplitude signal,” as claimed (Office Action “OA” at 3). Further, Applicant submits that *Kumm* does not teach or suggest at least the “setting” means and “delay circuit” recited in claim 1.

Norris does not cure *Kumm*’s deficiencies. *Norris* is an article directed to transmitter circuits (*Norris*, Overview). As affirmed by the Examiner, *Norris* does not teach or suggest “means for delaying the amplitude signal” (OA at 4). Applicant submits that *Norris* further fails to teach or suggest at least the “setting” means and “delay circuit” recited in claim 1. The Examiner alleges that *Norris* discloses “providing control depending on the frequency of the modulating signal” (OA at 6). Even if that allegation were valid, *Norris* does not teach or suggest delaying the amplitude signal output from the extracting means in accordance with a time that is set based on at least one of a modulation type, a modulation index, a frequency, a roll off rate of the modulating signal, an ambient temperature, a supply voltage to the modulation circuit, and a gain, as recited in claim 1.

Faulkner does not cure the deficiencies of *Norris* and *Kumm*. *Faulkner* is directed to a linearized power amplifier (Abstract). Although, as the Examiner notes, *Faulkner* discloses “introducing delay blocks . . . to [equalize] the difference in . . . signal paths,” *Faulkner* does not teach or suggest the “delaying” means recited in claim 1. That is, *Faulkner* does not teach or suggest means for delaying that comprises means for setting the time and a delay circuit for delaying the amplitude signal in accordance with the set time, “the setting means including a circuit for setting the time, based on at least one of a modulation type, a modulation index, a frequency, a roll off rate of the modulating signal, an ambient temperature, a supply voltage to the modulation circuit, and a gain,” as recited in claim 1.

Accordingly, neither *Kumm*, *Norris*, nor *Faulkner*, nor any combination thereof, teaches or suggests each and every feature of claim 1. As such, *prima facie* obviousness has not been established.

Moreover, *prima facie* obviousness has not been established at least because the requisite motivation to combine the applied references is lacking. Determinations of obviousness must be supported by evidence on the record. See *In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001) (finding that the factual determinations central to the issue of patentability, including conclusions of obviousness by the Board, must be supported by "substantial evidence"). Further, the desire to combine references must be proved with "substantial evidence" that is a result of a "thorough and searching" factual inquiry. *In re Lee*, 277 F.3d 1338, 1343-1344 (Fed. Cir. 2002) (quoting *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52).

In this case, the Office Action does not show, by substantial evidence, that a skilled artisan considering *Kumm*, *Norris* and *Faulkner*, and not having the benefit of Applicant's disclosure, would have been motivated to combine the references in a manner resulting in Applicant's claimed combination. The Examiner's allegations regarding motivation (OA at 4, 5) are not properly supported and do not show that a skilled artisan would have combined the references as alleged. Applicant calls attention to M.P.E.P. § 2143.01, which makes clear that: "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination" (citations omitted). The Office Action does not show that the cited art "suggests the desirability" of the alleged combination. Applicant submits that the conclusions in the Office Action were not reached based on facts gleaned from the cited references and that, instead, teachings of the present application were improperly used to reconstruct the prior art. For at least the foregoing

reasons, *prima facie* obviousness has not been established with respect to claim 1 and the § 103(a) rejection of that claim should be withdrawn.

The Examiner rejected independent claims 6, 10, 15, 19, 22 and 25 for the same reasons set forth in connection with claim 1. Each of independent claims 6, 10, 15, 19, 22 and 25, although of different scope than claim 1, includes features related to those of claim 1 discussed above. The § 103(a) rejection of claims 6, 10, 15, 19, 22 and 25 should thus be withdrawn for at least reasons similar to those presented above in connection with claim 1.

Claims 2, 5, 9, 18 and 21 depend upon base claim 1; and claims 11, 14, 24 and 27 depend upon base claim 10. The rejection of claims 2, 5, 9, 11, 14, 18, 21, 24 and 27 should be withdrawn for at least reasons similar to those presented above in connection with claims 1 and 10. Applicant thus requests withdrawal of the rejection of claims 1, 2, 5, 6, 9-11, 14, 15, 18, 19, 21, 22, 24, 25 and 27 under 35 U.S.C. § 103(a) and the timely allowance of those claims.

Rejection of claims 7, 8, 16, 17, 23, 28 and 29 under 35 U.S.C. § 103(a)

Applicant traverses the rejection of claims 7, 8, 16, 17, 23, 28 and 29 under 35 U.S.C. § 103(a) because a case for *prima facie* obviousness has not been established with respect to these claims.

Claims 7, 8 and 23 depend upon claim 1. As explained above, neither *Kumm*, *Norris*, nor *Faulkner* teaches or suggests each and every feature of claim 1. These references therefore fail to teach or suggest each and every element recited in claims 7, 8 and 23, which include all of the features of claim 1.

Wilson does not cure the deficiencies of *Kumm*, *Norris* and *Faulkner*. *Wilson* is directed to a linear RF power amplifier (page 1). *Wilson* does not teach or suggest at least the following features recited in claim 1 and required by claims 7, 8 and 23:

means for delaying the amplitude signal output from the extracting means for a time . . .

wherein the delaying means comprises . . . means for setting the time; and a delay circuit for delaying the amplitude signal output from the extracting means in accordance with the time set by the setting means,

the setting means including a circuit for setting the time, based on at least one of a modulation type, a modulation index, a frequency, a roll off rate of the modulating signal, an ambient temperature, a supply voltage to the modulation circuit, and a gain.

Accordingly, the applied references, taken alone or in combination, fail to teach or suggest all of the features of claims 7, 8 and 23.

Moreover, the requisite motivation for combining the references is lacking. For at least reasons similar to those presented above in connection with claim 1, the requisite motivation for combining *Kumm*, *Norris* and *Faulkner* is lacking. Additionally, the Office Action does not show, by substantial evidence, that a skilled artisan would have been motivated to combine the teachings of *Wilson* with the alleged combination of *Kumm*, *Norris* and *Faulkner* in a manner resulting in Applicant's claimed combination. The Examiner alleged that a skilled artisan would have combined the references "so as to provide a spectrally pure and synchronized RF signal to the data to be transmitted, thus satisfying the limitations of the claims" (OA at 8). This allegation in the Office Action is not properly supported and does not show that a skilled artisan would have combined the references as alleged. The Office Action does not show that the cited art "suggests the desirability" of the alleged combination. Applicant points out that "satisfying the limitations of the claims" is not a proper motivation to combine the references. Applicant submits that the conclusions in the Office Action were not reached based on facts gleaned from the cited references and that, instead, teachings of the present application were improperly used to reconstruct the prior art.

For at least the foregoing reasons, *prima facie* obviousness has not been established with respect to claims 7, 8 and 23 and the rejection of those claim under 35 U.S.C. § 103(a) should be withdrawn. Applicant therefore requests withdrawal of the § 103(a) rejection and the timely allowance of claims 7, 8 and 23.

Claims 16, 17 and 29 depend upon claim 10. As explained above, neither *Kumm*, *Norris*, nor *Faulkner* teaches or suggests each and every feature of claim 10. These references therefore fail to teach or suggest each and every element recited in claims 16, 17 and 29, which include all of the features of claim 10.

Wilson does not cure the deficiencies of *Kumm*, *Norris* and *Faulkner*. As explained, *Wilson* does not teach or suggest at least the following features, which are recited in claim 10 and required by claims 16, 17 and 29:

delaying the amplitude signal output in the extracting for a time . . .

wherein the delaying comprises . . . setting the time; and delaying the amplitude signal output from the extracting in accordance with the set time,

wherein the setting includes setting the time, based on at least one of a modulation type, a modulation index, a frequency, a roll off rate of the modulating signal, an ambient temperature, a supply voltage to the modulation circuit, and a gain.

Accordingly, the applied references, taken alone or in combination, fail to teach or suggest all of the features of claims 16, 17 and 29. Further, as explained above, the requisite motivation to combine *Kumm*, *Norris*, *Faulkner* and *Wilson* is lacking. For at least these reasons, *prima facie* obviousness has not been established with respect to claims 16, 17, and 29 and the rejection of those claim under 35 U.S.C. § 103(a) should be withdrawn. Applicant therefore requests withdrawal of the § 103(a) rejection and the timely allowance of claims 16, 17 and 29.

Independent claim 28 recites a combination including:

delaying the amplitude signal output in the extracting for a time;

wherein the delaying comprises . . . setting the time; and delaying the amplitude signal output in the extracting in accordance with the set time,

the setting including setting the time, based on at least one of a modulation type, a modulation index, a frequency, a roll off rate of the modulating signal, an ambient temperature, a supply voltage to the modulation circuit, and a gain.

For at least reasons similar to those presented above, neither *Kumm, Norris, Faulkner* nor *Wilson*, nor any combination thereof, teaches or suggests the above-noted features. Further, as explained, the requisite motivation to combine the applied references is lacking. For at least these reasons, *prima facie* obviousness has not been established and the § 103(a) rejection of claim 28 should be withdrawn. Applicant therefore requests withdrawal of the rejection and the timely allowance of claim 28.

Conclusion

The claimed invention is patentable over the applied art. Applicant requests the Examiner's reconsideration of the application in view of the foregoing, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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